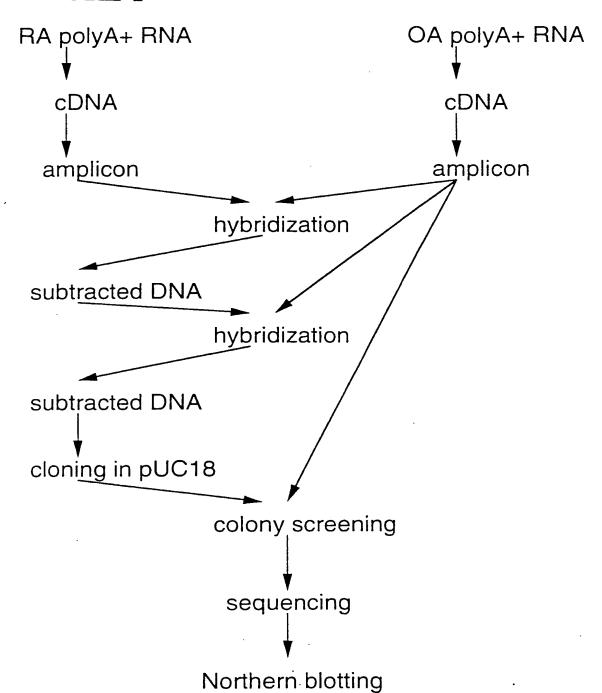
Applicants: Robert J. Winchester, et al.
U.S. Serial No. Not 09/500,746
Filing Date: January 9, 2000
Group Art Unit: 1644 @ 703-308-4680
Title of the Invention: USES OF INHIBITORS FOR
THE ACTIVATION OF CXCR4 RECEPTOR BY SDF-1
IN TREATING RHEUMATOID ARTHRITIS
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Applicants: Robert J. Winchester, et al. U.S. Serial No. Not 09/500,746

CELK09C4

SYPAPHGPEDPAPQFAHMFENEISHRTGSWNFAPNPDKQWLLQRTSHAAPNPBKQWLLQRTSHAAPNBAPNPDKQWLLQRTAATPAPNBKHWIMQYTAATPAPNSPWTAAPOYQKAFQNVFAPRNKNFNIHGTNKHWLIRQAK

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S V D E G I E R L F N L L R E L N Q L W N T S V D D S V E R L Y N M L V E T G E L E N T S V D D L V E K L V K R L E F T G E L N N T

KMNDVIIISFTDI. I. HRRRLQTLQ PMLPIHMEFTNILQRKRLQTLM PMTNSSIQELDNAFRKRWQTLL

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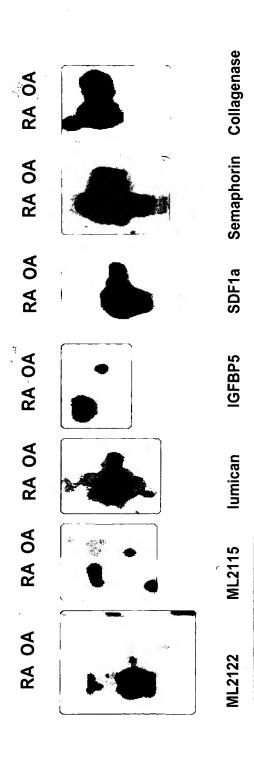
RVPFFMRGP RVPFFIRGP KVPLLVRGP

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A I Y T S D H G Y H L G Q F G L L K G K N M P Y E F D I I I Y T A D H G Y H I G Q F G L V K G K S M P Y D F D I I F Y T S D N G Y H T G Q F S L P I D K R Q L Y E F D I

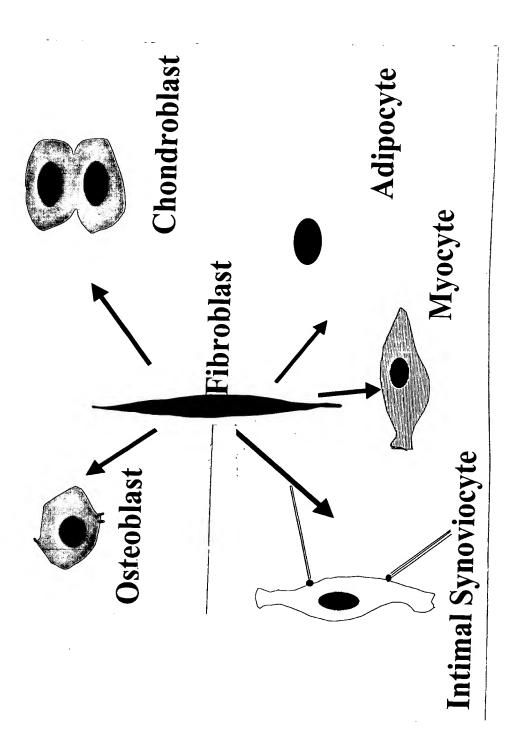
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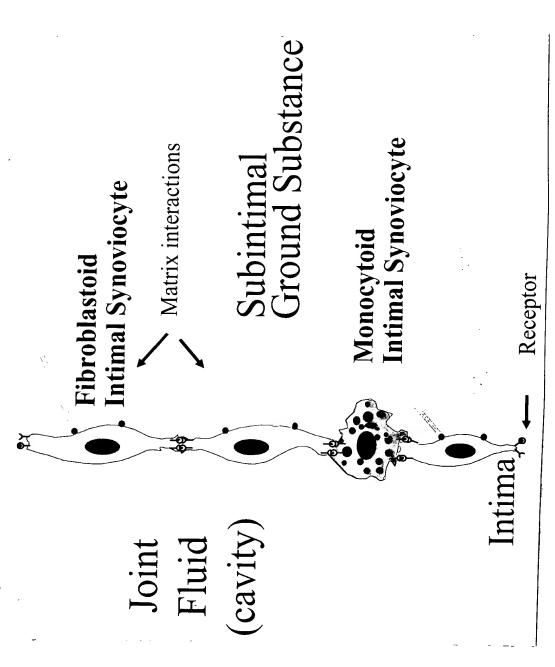
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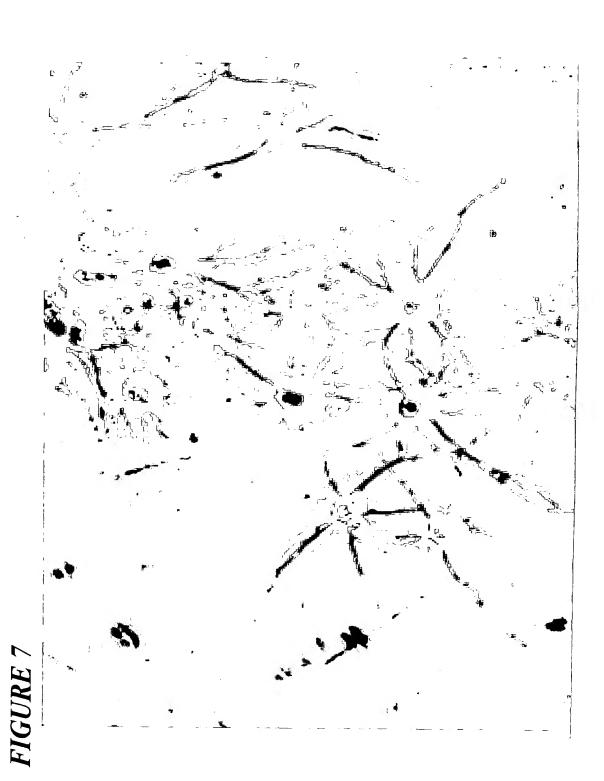
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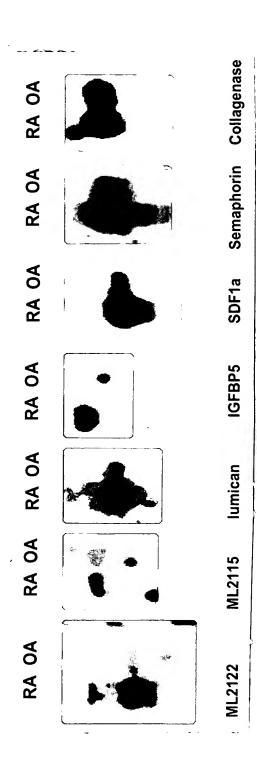




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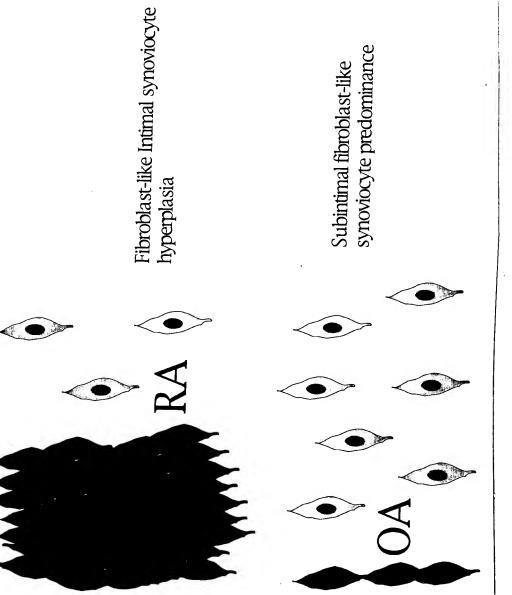
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ROLLING selectins CD44

TIGHT BINDING

TRIGGERING

chemokine-R integrins

chemokine-R VCAM-1/ICAM-1 integrins

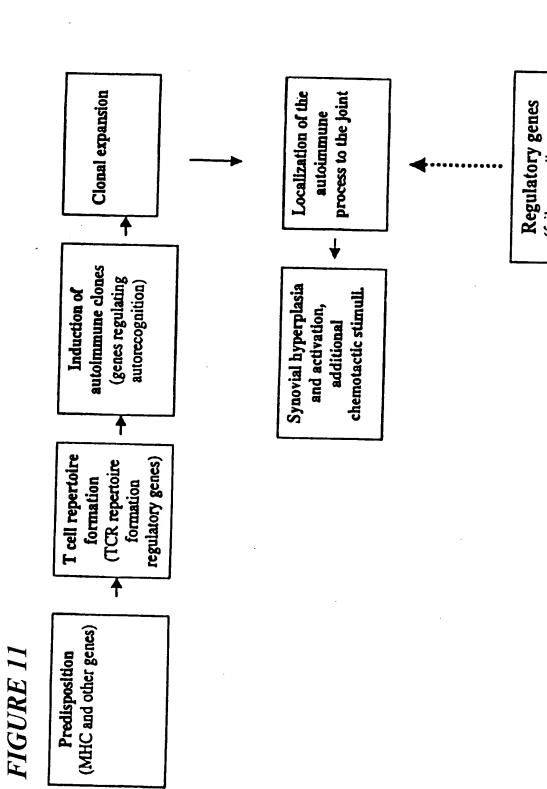
TRANSMIGRATION

chemokine-R integrins

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(failure predisposes to

disease)

10 20 30 40 50 60 5-04-12- 25.Seq(1>484) <- GNNGAGTGTGGGACGGGGGGGNGNAATTAAGGTAGNG-ATGGAGNANGGGGTGCNTNG 5-04-12- 27.Seq(1>437) -> GXXGAGTGTGGGACGGGGGXAAATTAAGGYMGGGLAYSGAGCWCGRRKTSCGTTG 70 80 90 100 110	04-12- 25.Seg(1>484) <- GNNNAGANANTGNNTGGAGAANGACAANGGGGGGNGTCGNNGGAGGNGNTGTGA-GTG 04-12- 27.Seg(1>437) -> NTGTCGCCGTTGN-TGTCGCAGATGCCCATGCCGATTCTTCGAAAGCCATGTT 04-12- 01.Seg(1>439) -> CAGATGCCCATGCCGATTCTTCGAAAGCCATGTTN 03-30- 34.Seg(1>466) <- CAGATGNCCATGCCGATTCTTCGAAAGCCATGTTN	CCAIGTING 130 140 150 160 170 180 180 180 180 180 180 180 180 180 18	4-12- 25.Seg(1>484) <- AAGAAGGCNACGTCAANAAGGACGAATATTTGCAANGNNGNNCAGGGCTGTNCNCGGG 4-12- 27.Seg(1>437) -> CAGA-GCCAACGTCAAGCATCTCAAA-ATTCTCAACACTCC-AAACTGTGCCCTT-(1-12- 01.Seg(1>382) -> CAGA-GCCAACGTCAAGCATCTCAAA-ATTCTCAACACTCC-AAACTGTGCCCTT-(1-130- 34.Seg(1>439) -> CAGA-GCCAACGTCAAGCATCTCAAA-ATTCTCAACACTCC-AAACTGTGCCCTT-(1-12- 21.Seg(1>466) <- AAGA-NCCA-CGTCAA-CATCCCAAA-ATCTCAACACCTCC-CAACTNTTCCCTT-(1-12- 21.Seg(1>466) <- AAGA-NCCA-CGTCAA-CATCCCAAA-ATCTCAACACACCC-CAACTNTTCCCTT-(1-12- 21.Seg(1>466) <- AAGA-NCCA-CGTCAA-CATCCCAAA-ATCTCAACACACCC-CAACTNTTCCCTT-(1-12- 21.Seg(1>466) <- AAGA-NCCA-CGTCAA-CATCCCAAA-ATCTCAACACACCC-CAACTNTTCCCTT-(1-12- 21.Seg(1>466) <- AAGA-NCCA-CGTCAA-CATCCCAAA-ATCTCAACACACCC-CAACTNTTCCCTT-(1-12- 21.Seg(1>466) <- AAGA-NCCA-CGTCAA-CATCCCAAA-ATCTCAACACACCC-CAACTNTTCCCTT-(1-130-130-130-130-130-130-130-130-130-13		-04-12- 25. Seq(1>484) <- GTTTGTAAAAAAAAAAAAAAACGAACAGACAAGTGTNNG-TTGACCCGAAGC-NA-04-12- 27. Seq(1>437) -> GATTGTAACCCGGCTGAAGAAACAACAAC-AGACAAGTGTGCA-TTGACCCGAAGCTAA-04-12- 01. Seq(1>382) -> GATTGTAGCCCGGCTGAAGAACAACAAC-AGACAAGTGTGCA-TTGACCCGAAGCT-A-03-30- 34. Seq(1>439) -> GATTGTAGCCCGGCTGAAGAACAACAAC-AGACAAGTGTGCA-TTGACCCGAAGCT-A-04-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTTAA-GA-12- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAGTGTGCA-TTGACCCGAAGCTTAA-GA-13- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAAGTGTGCA-TTGACCCGAAGCTTAA-GA-13- 21. Seq(1>466) <- GATTGTAGCCCGGCTGAAGAACAAC-A-AGACAAAGTGTGCA-TTGACCCGAAGCTTAA-GAACAAAC-A-AGACAAAGTGTGCA-TTGACCCGAAGCTTAA-GAACAAAC-A-AGACAAAGTGTGCA-TTGACCCGAAGCTTAA-GAACAAAC-A-AGACAAAGTGTGCA-TTGACCCGAAAGTGTGAAAAAAAAAA
95-04-1	95-04-1 95-04-1 95-04-1 95-03-3 95-04-1		95-04-12 95-04-12 95-04-12 95-03-30		4-12 4-12 3-12 4-12 4-12
New New	New New New New New		New New New New New	;	New New New New

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AGCC-AA AGCC-AA AG-CCAA AG-CCAA AG-CCAA	CTAGACCCACTCGAGGAAAACTAAAAC CTAGACCCACTCGAGGAAAACTAAAAC CTAGACCCACTCGAGGAAAACTAAAAC CTAGACCCACTCGAGGAAAACTAAAAC CTAGACCCACTCGAGGAAAACTAAAAC	New 95-04-12- 25.Seq(1>484) - AGACGTGGGGG-AGGGGGCCNTAAC-CA-TGAGGACCAGGTGTGTGTGTGTGGGG-C New 95-04-12- 27.Seq(1>437) -> AGACGTGGGGG-AGGGGGGCTTAAC-CA-TGAGGACCAGGTGTGTGTTGTGT	New 95-04-12- 25.Seg(1>484) <- ACATTG-ATCT-GGG-ATCGGGCCTGAGGTTTGCATTTAGACCCTGCATTTATAGC New 95-04-12- 27.Seg(1>437) -> ACATTGATCTTN-G-ATCGGGCCTGAGGTTTGGCAGCATTTAGACCCTGGATTTAT-GN New 95-04-12- 01.Seg(1>382) -> ACATTGNATCTTGGG-ATCGGGCCTGAGGTTNGGCAGAATTTNGNCCCTGNATTTNTGGN New 95-03-30- 34.Seg(1>439) -> ACATNGNATCT-GGGTATCGGGCCTGAGGTTTGNCAGCATTTAGNCCCTGNATTTATNGC ACATTGAATCTCGGGCCTGAGGTTTGSCAGCATTTAGACCCTGSATTTATTAGC
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480	ATAGC	TRGC	540	1		SGAC SAAC SAAC	GRAC	909	1	ACA	aCAG	099	-AAC	CAAC	720	SAGT TOAS	3AGT
470	ACCCTGCATTTP	ACCCTGSATTT	530	ماممماليمما		CTGTGCACGTTG CTGTGCACGTTG	CTGTGCACGTTG	590		AGCATTTTCA-G	AGCATTTTCAAG	650	GATCATCACAATCATCATTCTCATTCTCATTTTTTTAAATC-AAC	ATTITITAAATC	710	GCTCCCTGGG	GCTCCCCTGGG
460	AGCATTTAC	GCATTTAC	520			CC-TGTAC	CCXYGTAC	580		TTATCAAC	TTATCAAC	640	TCATTCTC	CATTCTC	700	ATCTCCTC	ATCTCCTC
450	TGAGGTTTGCC	TCAGGTTTTGSC?	510			ATTCATCCATGC ATTCATCCATGC	aTTCATCCATGC	570	-	AAAGAAATTGTA AAAGAAATTGTA	AAAGAAATTGTA	630.	ICATCATCATTC ICATCATCATTC	CATCATCATTC	069	TTGTTTGGAGC	TTGTTTGGAGC
440	-ATCGGGCC -ATCGGGCC	-ATCGGGCC	200	3CAG N	T CACENTATIAN	SCAGCTTAT SCAGCTTAT	SCAGCTTAT	260		TITCTAAG	TTTCTAAG	620	CATCACAA	CATCACAAT	089	GAATTTGGC G-ATTTGGC	Gaattitigg
430	ACATTG-ATCT-GGG-ATCGGGCCTGAGGTTTGCCAGCATTTAGACCCTGCATTTATAGACACATTG-ATCT-GGG-ATCGGGCCTGAGGTTTGCCAGCATTTAGACCCTGCATTTATAGAC	ACATTGXATCTLGGG-ATCGGGCCTGAGGTTTGSCAGCATTTTAGACCCTGSATTTTATRGC	490	- ATACGGTATGATATTGCAG -> ATACGGINITGATININI	-> ATACGGCATGATATTGCAGNITHAT-TTTCATTCATTCATTCATTCATTCATTCATTCATTCA	 ATACGGTATGATATTGCAGCTTATATTCATCCATGCCC-TGTACCTGTGCACGTTGGAAC ATACGGTATGATATTGCAGCTTATATTCATCCATGCCC-TGTACCTGTGCACGTTGGAAC 	ATACGGYATGATATTGCAGCTTATATTCATCCATGCCCXYGTACCTGTGCACGTTTCRAC	550	-> TAG	 11111ATTACTGGGGTTTTTTCTAAGAAAGAAATTGTATTATCAACAGCATTTTCA-GACA 111TTATTACTGGGGTTTTTTCTAAGAAAGAAATTGTATTATCAACAGCATTTTTCA GCACATTTTATCAACAACAACAACAACAACAACAACAACAA	TWKTATTACTGGGGTTTTTCTAAGAAAGAAATTGTATTATCAACAGCATTTTTCAAGACAG	610	- TTAGTITCTTCATGATCATCATCATCATTCTCATTCTCATTTTTTTAAATC-AAC	ATI	670	<- GAGTACITICAAGATCIGAATTTGGCTTGTTTGGAGCATCTCCTCTGCTCCCCTGGGGAGT<- GAGTACNTCAAGATCTG-ATTTGGCTTGTTTGGAGCATCTCCTCTGCTCCCCTCTGGAGCATCTCTCTC	GAGTACTTCAAGATCTGAATTTGGCTTGTTTGGAGCATCTCCTCTGCTCCCCTGGGGAGT
	21.Seg(1>466) 19.Seg(1>463)			£ C	32)	56)			6	19.Seg(1>463) <			19.Seq(1>463) < 17.Seq(1>461) <			19.Seg(1>463) < 17.Seg(1>461) <	
	95-04-12- 95-04-12-			5-04-12- 5-04-12-	5-04-12- 5-03-30-				95-03-30-	-12-			95-04-12- 95-04-12-			95-04-12- 1 95-04-12- 1	
	New New					New			New New				New New			New 9	

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780	75555	840 1 200 200 200 200 200 200 200 200 200 200	TEER S		
770	GGGAGCTGGAAAAGTGTCCTTTCTTCAGACA GGGAGCTGGAAAAGTGTCCTTTCTTCAGACA GGGAGCTGGAAAAAGTGTCCTTTCTTCAGACA	830 CTGGCACTCAGATAC IGTGGCACTCAGATAC IGTGGCACTCAGATAC	CTCAGTGATTGGCTC	GACCCCTCTCCCAGCTA GACCCCTCTCCCAGCTA CACCCCTCTCCCAGCTA CACCCCTCTCCCAGCTA CACCCCTCTCCCAGCTA	TCTGCTTCTCATTTC TCTGCTTCTCATTTC TCTGCTTCTCATTTC
760	AAAAA	820 36 36 36 36 36 38 880	TTCAAC TTCAAC TTCAAC	CTCAGA CTCAGA CTCAGA	CTTGCT
750	TAACAGGGAGCTGC TAACAGGGAGCTGC GGGAGCTGC TAACAGGGAGCTGC	810 CTCCCAAGAGGAAG CTCCCAAGAGGAAG CTCCCAAGAGGAAG	CCTTCACCTCCTCT CCTTCACCTCCTCT CCTTCACCTCCTCTCT 930	TTACTGGGACTGTG TTACTGGGACTGTG TTACTGGGACTGTG	AGAGCATGCTTAATY AGAGCATGCTTAATY AGAGCATGCTTAATY AGAGCATGCTTAATY
740	GGTGGC1 GGTGGC1 GGTGGCT	800 AGCGCCC AGCGCCC AGCGCCC	SCCACTG SCCACTG SCCACTG	SCCACTA SCCACTA SCCACTA	ACTCCG/
730	 CTGGGCACAGTCAGGTGGCTTAACAGGGAGCTGGAAAAAGTGTCCTTTTCTTCAGACA CTGGGCACAGTCAGGTGGCTTAACAGGGAGCTGGAAAAAGTGTCCTTTTCTTCAGACA GGGAGCTGGAAAAAGTGTCCTTTTCAGACA CTGGGCACAGTCAGGTGGCTTAACAGGGGAGCTGGAAAAAGTGTCCTTTTCAGACA 	790 810 820 84 - CTGAGGCTCCGCAGCAGCGCCCCTCCCAAGAGGAAGG CTGAGNCTCCCGCAGCAGCGCCCCTCCCAAGAGGAAGGCCTCTGTGGCACTCAGATACCG -> CTGAGGCTCCCGCAGCAGCGCCCCTCCCAAGAGAAGGCCTCTGTGGCACTCAGATACCG CTGAGGCTCCCGCAGCAGCGCCCCTCCCAAGAGGAAGGCCTCTGTGGCACTCAGATACCG CTGAGGCTCCCGCAGCAGCGCCCCTCCCAAGAGGAAGGCCTCTGTGGCACTCAGATACCG 850 860 870 880 890 900	 ACTGGGGCTGGGCGCCGCCACTTCACCTCTTTCAACCTCAGTGATTGGCTCTG ACTGGGGCTGGGCGCCGCCACTTCACCTCTCTTTCAACCTCAGTGATTGGCTCTG ACTGGGGCTGGGCGCCGCCACTTCACCTCCTCTTTTCAACCTCAGTGATTGGCTCTG 910 920 930 940 	 TGGGCTCCATGTAGAAGCCACTATTACTGGGACTGTGCTCAGAGACCCCTCTCCCAGCTA TGGGCTCCATGTAGAAGCCACTATTACTGGGACTGTGCTCAGAGACCCCTCTCCCAGCTA CCCAGCTA TGGGCTCCATGTAGAAGCCACTATTACTGGGACTGTGCTCAGAGACCCCTCTCCCAGCTA 1000 	 TICCTACTCTCCCCGACTCCGAGAGCATGCTTAATCTTGCTTCTGCTTCTCATTTCTG TICCTACTCTCTCCCCGACTCCGAGAGCATGCTTAATCTTGCTTCTGCTTCTCATTTCTG TICCTACTCTCTCCCCGACTCCGAGAGCATGCTTAATCTTGCTTCTGCTTCTCATTTCTG TICCTACTCTCTCCCCGACTCCGAGAGCATGCTTAATCTTGCTTCTGCTTCTCATTTTCTG
	19.Seg(1>463) 17.Seg(1>461) 09.Seg(1>445)	19.Seg(1>463) 17.Seg(1>461) 09.Seg(1>445)	17.Seg(1>461) 09.Seg(1>445)	17.Seg(1>461) - 09.Seg(1>445) - 03.Seg(1>447) -	17.Seg(1>461) < 09.Seg(1>445) - 03.Seg(1>447) -
	95-04-12- 95-04-12- 95-03-30-	5-04-12- 5-04-12- 5-03-30-	95-04-12- 95-03-30-	95-04-12- 95-03-30- 95-04-12-	w 95-04-12- 3 w 95-03-30- (w 95-04-12- (
	New	New 9 New 9 New 9	New 9	New 9 New 9 New 9	New 9 New 9 New 9

1080

1070

New 95-04-12- 17.Seg(1>461) <- TAGCCTGATCAGCGCCGCACCAGCGGGAAGAGGGTGATTGCTGGGGCTCGTGCC

16/19	
New 95-03-30 09.5eq (12445) -7 TAXOCTGATCAGCGGGAAGAGGGTGATTGCTGGGGCTGCCCCCCCC	TACCCGC-AAAAGACAAGTCTTTACAGAATCAAATTTTAAATCTGAGAGCTCGCT

FIGURE 12-6

03. Seq(1>447) -> TTGAGTGACTGGGTTTTGGTGATTGNCTCTGAAGCCTATGTATGCCATGGAGGGACTAAC New 95-04-12- 07.Seg(1>453) -> TTGAGTGACTGGGTTTTG-TGATTGCCTCTGAAGCCTATGTATGCCATGGAGGCACTAAC 11.Seq(1>463) <- ACTACCCCTCCTGAAGCCACAGGAGGTTTCAGGTTCCAATC-AGAACTGTTGGC-AAG New 95-04-12- 11.Seg(1>463) <- TTGAGTGACTGGGTTTTG-TGATTGCCTCTGAAGCCTATGTATGCCATGGAGGCACTAAC New 95-04-12- 05.Seg(1>475) -> TTGAGTGACTGGGTTTTG-TGATTGCCTCTGAAGCCTATGTATGCCATGGAGGCACTAAC -> ACTACCCCCTCCTGAAGCCACAGGGTTTCAGGTTCCAATC-AGAACTGTTGG-CAAG TTGAGTGACTGGGTTTTG-TGATTGCCTCTGAAGCCTATGTATGCCATGGAGGCACTAAC AAACTCTGAGGTTTCCGAAATCAGAAGCGAAAAAATCAGTGAATAAACCATCATCTTGSC -> AAACTCTGAGGTTTCCGAAATCAGAAGCGAAAAA-TCAGTGAATAAACCATCATCTTGGC <- AAACTCTGAGGTTTCCGAAATCAGAAGCGAAAAAATCAGTGAATAAACCATCATCTTGCC</p> -> AAACTCTGAGGTTTTCCGAAATCAGAAGCGAAAAATCAGTGAATAAACCATCATCTTGNC -> AAACTCTGAGGTTTTCCGAAATCAGAAGCGAAAAAATCAGTGAATAAACCATCATCTTGCC 1310 1360 1300 1350 1410 -> ACTA-CCCCTCCTGAAGC-ACAGNAGGGTT 1340 1400 1390 07.Seq(1>453) 03.Seq(1>447) 11.Seg(1>463) 03.Seq(1>447) 05.Seq(1>475) 07.Seg(1>453) 05.Seq(1>475) New 95-04-12-New 95-04-12-New 95-04-12-New 95-04-12-New 95-04-12-New 95-04-12-New 95-04-12-New 95-04-12-New 95-04-12-

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CIGITGGCA-AG PAGGITCCRATCAAGAACTGTTGGCCRAG 1490 1500	AGAAGGTCCTGGT-GGTATTT-GTAACTT AGAAGGTCCTGGTGGGTATTTGGTAACTT AGAAGGTCCTGGTGGGTATTTGGTAACTT AGAAGGTCCTGGTGGGTATTTGGTAACTT
ACTACCCCTCCTGAAGCCACAGGGTTTCAGGTTCCRATCAAGAACTGTTGGCCRAG 1450 1460 1470 1480 1490	New 95-04-12- 11.Seq(1>463) <- GT-GACATITICCATGCATGCGATCCACAGAAGGTCCTGGT-GGTATTT-GTAACTT New 95-04-12- 07.Seq(1>453) -> GT-GACATITICCATGCATAAATGCGATCCACAGAAGGTCCTGGTGGGGTATTTTGGTAACTT New 95-04-12- 05.Seq(1>475) -> GT-GACATITICCATGCATAAATGCGATCCACAGAAGGTCCTGGTGGGTATTTTGGTAACTT GT-GACATITICCATGCATAAATGCGAWCCACAGRAGGKCCTGGKGGGTATTTGGTAACTT
	New 95-04-12- 11.Seg(1>463 New 95-04-12- 07.Seg(1>453 New 95-04-12- 05.Seg(1>475

GATCAAGGGCTGTTGGCCGAG

09.Seq(1>381)

30.Seq(1>377)

03.Seq(1>376)

New 95-03-30-New 95-03-30-95-04-12-

CTGTTGGCA-AG

CNA-NNAGAACTGTTGCCCG-G

-> ACTACCCCCTCCTGAAGCCACAGGGTTTCAGGTTCCAATC-AGAACTGTTGG-CAAG

Applicants: Robert J. Winchester, et al.
U.S. Serial No. Not 09/500,746
Filing Date: January 9, 2000
Group Art Unit: 1644 @ 703-308-4680
Title of the Invention: USES OF INHIBITORS FOR
THE ACTIVATION OF CXCR4 RECEPTOR BY SDF-1
IN TREATING RHEUMATOID ARTHRITIS
Sheet 18 of 19

18/19

			1450	1460 1470	1470	1480	1490 15(1500
New	New 95-03-30- 03.Seq	_	1>376) <- GT-GACATTTCCATNCATAAATGCGAACCACAGNNGGNCC-NGGNGGNA-TT-TNTACCT	VCATAAATGCGA	ACCACAGINIG	GNCC-NGGN	GGNA-TT-TNT	ACCI
New	New 95-03-30-	30.Seq(<- GTGGNAATTTCCATNCANAAATGCGAACCCCAGGGGGGGGGG	NCANAAATGCGA	ACCCCAGGGG	999993399	GGNA-TT-GTA	ACCI
New	95-04-12-		-> GT-GACATTICCATGCATAAAIGCGATCCACAGAAGGTCCTGGT-GGTAITTT-GTAACTT	SCATAAATGCGA	TCCACAGAAG	GICCIGGI-	GGTATTT-GTA	ACTI
			GT-GACATTICCATGCATAAATGCGAWCCACAGRRGGKCCTGGKGGGTALTTGGTAACYT	SCATAAATGCGA	WCCACAGRRG	GKCCTGGKg	GGTALTTGGTA	ACYT
			1510	1520	1530	1540	1550	1560
New	New 95-04-12-	11.Seg(1>463)	<- TITIGCAAGGCATTITITITITATATAT-TITIGTGGGCA	TITTATATATA	T-TITIGIGG	SCA SCA	واستمامته	1
New	95-04-12-	07.Seq(1>453)	-> TTINGGAAGGNATTTINNININTATATATAT-TTINGGGAN	UNINTATATATA	T-TTINGGGA	7		
New	New 95-04-12-	05.Seq(1>475)	-> TIGGNAAGGC-A-TIIINNNNNATATATIINGGGGCACATITITITITITATATITICTITIT	TTUNNNNATATA	TATTINGGGG	CACATTITIT	TITIACGITIC	Lilil
New	95-03-30-	03.Seq(1>376)	- TITINCCAGGCAN-TITITIAAAAAAAAANTITIGT-NCANATITITITITITITICGNITICNINA	TTTTAAAAAA	AANTITIGI-N	CANATITIT	TTINITACGNITIC	ANTA
New		30.Seq(1>377)	- TITITCCAGGNAATTITITITAAAAAA-NITITGT-GCACANITITITITITINCGNITICNINA	TTTTAAAAAA	A-NITITGI-G	CACANTITIT	TITITINCGNITIC	ANIM
New	95-04-12-	09.Seq(1>381)	-> TITIGNAAGGCAITITITITITATATATAT-TITITIGNG-CACAITITITITITACGTITICITIA	ITTTATATATA	T-TITIGNG-	CACATTITIT	TTTTACGTTTC	TITIA
			TTKKSMAGGCAWETTTTTTAWAWAWAWATTTTTGKGRSAMATTTTTTTTTTACGTTTCTTTA	TITITAWAWAWA	WaTTTTK	SAMATTITI	TITITACGITITIC	TTTT
			1570	1580	1590	1600	1610	1620
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New Sev	New 95-04-12-	05.Seg(1>475)	-> AGAAACAAATGT-TTTCAAAATNT-TTTAT-GGTCGACAATCAAT	TCAAAATNT-T	TTAT-GGTCG	ACAATCAAT		(
2 Z	New 95-03-30-	30 Seg(1>375)		ICCCCAANATER!	TIANANGCGC	ACAANIC	ANATANTIGGA	
New	New 95-04-12-	09.Seq(-> GAAAACAAATGTATTTCAAAATATATTTATAGTCGAACAATTCATATATTTGAAGTGG	TCAAAATATAT	TTATAGTCGA	ACAATTCAT	ATATITIGAA	GTGG
			GRAARCMAATGTATTYCMMAATATRTTTATAGGCGRACAAWHMAtaaAWATTTGRRGTGG	TYCHMAATATRT	TTATAGGCGR	ACAAWHMat	aaAWATTTGRR	GTGG

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1680	TEFE	77w 1740	1686	1800	1888	SIS	
* '	 ANCCAAATGGATNTCAGTAGTTTAAACNTCTCTANTATCCCCAACNGCTGGCCANTINT NGCCAANTGGATTTCAGGAGNTNAAACCTCNCNANTATCCCCNNCCNCTGGCCATTTTTT AGCCATATGAATGTCAGTAGTTTATACTTCTCTATTATCTCAAACTACTGGCAATTTGTA 	AGCCAWATGRATKTCAGKAGTTTAWACYTCTCTAXTATCYCMAACYRCTGGCMATTTKTW 1690 1700 1710 1720 1730 174	- NAGNAANAAAAAAAAAAAAAAATNTGGTTTTCAGCNTTTCCATNTTAACCNCAGTNGATT- AAGGNAAAAAAAATGAAAAANNGATNTGGTTTTCAGCCTTTTCCATNNTAACCNCAGTNNAAT-> AAGAAATATATATAAAATGTGATTTGCAGCTTTTCAATGTTAGCCACAGTGTATT	AAGRAAWAWATGAWAWAXRRATXTGRTTTKCAGCYTTTCMATXTTARCCXCAGTXKAWT 1750 1760 1770 1780 1790 18	 TTTTCACTININCCAAATTINIACCONATHINACANTAAATNCCCTANCNAANAATTCN TTTTCACTININCCNNAATTININCCCCATNINGCNITAAATTCCCNANCCAAANAATNCN TTTTCACTTGTACTAAAATTGTATCAAATGTCACATTAAATTCCCCNANCCAAANAATNCN 	TITICACTITXTXCYAAAATTXTAYCMMATXTXRCAITAWATKCMCTAXCMAWAAAATKCX 1810	
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